

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 and 2. (canceled).

3. (currently amended) The method for manufacturing a spark plug—in accordance with claim 2, wherein which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal, said manufacturing method comprising:
stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;
mounting a plurality of insulators each accommodating said electric resistive powder material on a tray;
conveying said tray carrying said plurality of insulators into a furnace;
thermally processing all of said plurality of insulators mounted on said tray in said furnace;
conveying said tray mounting said thermally processed plurality of insulators out of said furnace through an opening of said furnace; and
inserting said stem in said inner hollow space of each insulator,
wherein a windbreak is provided at a predetermined side of said tray that is close to said opening of said furnace when placed in said furnace, thereby preventing said thermally processed plurality of insulators from being directly cooled by the flow of air entering via said opening into said furnace, and
said windbreak-prevents shields the thermally processed insulators located close to said opening of said furnace at least at a portion thereof corresponding to said electric resistor from the flow of air entering into said furnace via said opening, thereby preventing the thermally processed insulators located close to said opening from being

directly unevenly cooled by the air entering into said furnace via said opening when said tray mounting said thermally processed plurality of insulators are conveyed out of said furnace.

4. (withdrawn) A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal, said manufacturing method comprising the steps of:

stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

placing a plurality of insulators each accommodating said electric resistive powder material in receiving holes of a tray;

conveying said tray carrying said plurality of insulators into a furnace;

heating all of said plurality of insulators mounted on said tray in said furnace;

conveying said tray mounting said plurality of insulators thereon out of said furnace; and

inserting said stem in said inner hollow space of each insulator,

wherein each receiving hole of said tray is so deep that the portion corresponding to said electric resistor can be positioned or concealed in the receiving hole.

5. (withdrawn) A method for manufacturing a spark plug which has a center electrode and a ground electrode to cause a spark discharge and has an electric resistor interposed between the center electrode and a stem equipped with a terminal, said manufacturing method comprising the steps of:

stuffing an electric resistive powder material in an inner hollow space of each insulator into which said center electrode and said stem are installed;

mounting a plurality of insulators each accommodating said electric resistive powder material on a tray;

conveying said tray carrying said plurality of insulators into a furnace via an entrance of said furnace;

heating all of said plurality of insulators mounted on said tray in said furnace;

conveying said tray mounting said plurality of insulators thereon out of said furnace; and

inserting said stem in said inner hollow space of each insulator,

wherein said tray has a configuration for enlarging a cooling rate of an insulator located far from said entrance of said furnace compared with a cooling rate of an insulator located close to said entrance of said furnace.

6. (withdrawn) The method for manufacturing a spark plug in accordance with claim 5, wherein said tray has receiving holes for receiving said insulators, and

a depth of a receiving hole provided close to said entrance of said furnace is deeper than a depth of a receiving hole provided far from said entrance of said furnace.

7. (withdrawn) The method for manufacturing a spark plug in accordance with claim 1, wherein said electric resistor is equal to or larger than 3 k Ω .

8. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the tray has a plurality of holes, each receiving a respective insulator.

9. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the tray has a rectangular base and wherein the windbreak is provided along at least one edge of the rectangular base to shield the insulators from being cooled by the flow of air.

10. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is positioned so that when the tray is in the furnace, the windbreak is positioned close to an entrance of the furnace.

11. (new) The method for manufacturing a spark plug in accordance with claim 8, wherein the windbreak is disposed so that an upper end thereof is higher than a portion corresponding to the resistor of the insulator received in the hole, whereby the windbreak prevents the resistor from being directly cooled by the air flowing into the furnace.

12. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the height h of the windbreak above an upper surface of the tray is greater than a height H of the top of the resistor from said upper surface of the tray.

13. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is an elongated, generally flat plate disposed along and projecting upwardly from said side of the tray.

14. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the tray is conveyed into said furnace via said opening.

15. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is defined by an elongated, wavy or undulated plate.

16. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is perforated.

17. (new) The method for manufacturing a spark plug in accordance with claim 16, wherein the perforations comprise a plurality of slits.

18. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak comprises a surrounding windbreak extending along and upwardly from all peripheral sides of the tray.

19. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is welded to the tray.

20. (new) The method for manufacturing a spark plug in accordance with claim 3, wherein the windbreak is formed integrally with the tray.